

[6450-01-P]

**DEPARTMENT OF ENERGY**

Record of Decision; Safe Interim Storage of Hanford Tank Wastes, Hanford Site, Richland, Washington

**AGENCY:** U.S. Department of Energy (DOE)

**ACTION:** Notice of Record of Decision (ROD)

**SUMMARY:** DOE and the Washington State Department of Ecology (Ecology) have jointly prepared the *Safe Interim Storage of Hanford Tank Wastes Final Environmental Impact Statement* (SIS EIS) (DOE/EIS-0212) to assess the environmental and human health impacts associated with the construction and operation of facilities and systems to continue the safe management of high-level, mixed radioactive wastes stored in tanks at the Hanford Site. After careful consideration of environmental impacts, lifecycle costs, public, agency, and tribal comments, and engineering evaluations, DOE has decided to implement most of the actions of the preferred alternative evaluated in the Final SIS EIS and are documenting this determination in this ROD. The actions will involve the continued operation of the existing cross-site transfer system (ECSTS) until replaced by the construction and operation of a new replacement cross-site transfer system (RCSTS) consisting of buried, double-wall, insulated pipes, and continued operation of the mixer pump installed in Tank 101-SY to mitigate the unacceptable accumulation of hydrogen and other flammable gases.

Pending resolution of a recently identified safety issue, DOE is deferring a decision on the retrieval of solids from Tank 102-SY, and limiting the transfer of wastes through Tank 102-SY to non-complexed wastes. Evaluation of this issue will be addressed under DOE's NEPA procedures as necessary. DOE and Ecology have determined that new storage tanks will not be necessary at the present time to mitigate the flammable gas safety issue, based on the demonstrated success of the mixer pump.

**FOR FURTHER INFORMATION CONTACT:** For further information on DOE and Ecology activities related to this project or copies of the Final SIS EIS, please contact:

Carolyn Haass  
U.S. Department of Energy  
P.O. Box 550, MSIN S7-51  
Richland, WA 99352  
(509) 372-2731

Geoff Tallent  
Washington Department of Ecology  
P.O. Box 47600  
Olympia, WA 98504-7600  
(360) 407-7112

For further information on DOE's National Environmental Policy Act (NEPA) process, please contact:

Carol Borgstrom, Director  
Office of NEPA Policy and Assistance (EH-42)  
U.S. Department of Energy  
1000 Independence Avenue, SW.  
Washington, D.C. 20585-0002  
(202) 586-4600 or (800) 472-2756

**SUPPLEMENTARY INFORMATION:** DOE has prepared this ROD pursuant to the Council on Environmental Quality (CEQ) regulations for implementing the provisions of NEPA (40 CFR 1500-1508) and the DOE NEPA regulations (10 CFR 1021). The ROD is based on the analyses of environmental impacts identified in the Final SIS EIS (DOE/EIS-0212); consideration of project costs; compliance requirements for systems involved in the handling, transport, and storage of high-level mixed radioactive waste, and public, agency, and tribal comments.

Because NEPA and SEPA are very comparable in their purpose, intent, and procedures, Ecology and DOE decided to prepare one EIS addressing the requirements of both SEPA and NEPA. In February 1994, a memorandum of understanding (MOU) was signed between the DOE, Richland Operations Office and Ecology. The MOU called for the joint preparation of the SIS EIS, the contents of which have been determined to satisfy both SEPA and NEPA requirements.

**Purpose and Need:** DOE and Ecology identified the need to continue to provide safe storage of high-level radioactive tank wastes while supporting tank farm management and operations prior to implementing decisions made in the ROD for the Tank Waste Remedial System (TWRS) EIS. The TWRS EIS is evaluating the alternatives for permanent disposal of wastes currently stored in tanks at the Hanford Site. To minimize the risk of managing tank wastes prior to the TWRS ROD, a modern, safe, reliable, and compliant replacement cross-site transfer capability is needed to move wastes between the 200 West and 200 East Area tank farms. This transfer capability is required because the 200 West Area has far less useable double shell tank (DST) capacity than there is waste in single shell tanks (SSTs).

The replacement waste transfer capability would provide the means to move waste from the 200 West Area to the available DST capacity located in the 200 East Area.

The ECSTS has been used to transfer wastes from the 200 West Area to the 200 East Area for the past 40 years. This underground pipeline system is at the end of its original design life. Currently, four of six lines are out of service and unavailable to perform transfers due to plugging. The two useable lines do not meet current engineering standards such as, double containment and leak detection, required for waste management facilities.

Based on current tank waste management and operation activities, the SIS EIS addressed the need to do the following:

- Remove Salt Well Liquids (SWLs) from older SSTs to reduce the likelihood of liquid waste escaping from the corroded tanks into the environment. Many of these tanks have leaked and new leaks are developing in these tanks at a rate of more than one per year.
- Provide ability to transfer the tank wastes via a compliant system to mitigate any future safety concerns and use current or future tank space allocations.
- Provide adequate tank waste storage capacity for future waste volumes associated with tank farm operations and other Hanford facility operations.
- Mitigate the flammable gas safety issue in Tank 101-SY.

**Summary of Alternatives and Impacts:** DOE and Ecology have identified four action alternatives in addition to the no action alternative to satisfy the need to continue to provide safe storage of high-level waste until decisions are made based on the TWRS EIS. The alternatives consist of the preferred alternative, truck transfer alternative, rail transfer alternative, and new storage alternative. DOE evaluated the construction and operation

phases of each alternative to assess potential impacts to the following environmental categories:

- Geology, Seismology, Soils
- Population and Socioeconomics
- Water Resources and Hydrology
- Transportation
- Air Quality
- Land Use
- Radiation
- Cultural Resources
- Noise
- Health Effects
- Biological Resources

The impact analysis showed that there would be no impacts related to geology, seismology, water resources and hydrology, radiation, noise, population and socioeconomics, or cultural resources for any of the alternatives. Environmental categories where potential impacts were identified are discussed under each alternative as applicable.

### **Preferred Alternative**

The preferred alternative consists of the following components:

- Construction and operation of the RCSTS for cross-site transfer of SWLs, and 200 West Area Facility wastes from Tank 102-SY to DSTs in the 200 East Area;
- Construction of a waste retrieval system in Tank 102-SY to retrieve solids;
- Continued operation of a mixer pump in Tank 101-SY;
- Transfer of liquid wastes through the ECSTS until the proposed RCSTS becomes operational in 1998.

Transuranic solids from Tank 102-SY would be retrieved, transferred via the RCSTS and consolidated in 200 East Area DSTs to provide space for transfer of complexed SWLs. The consolidation of tank waste is an ongoing tank farm management action evaluated under prior environmental impact statements and a supplement (ERDA 1538, DOE/EIS-0063, DOE/EIS-0113). Although such retrieval is addressed in the decisions resulting from these NEPA documents, the retrieval of Tank 102-SY sludge was discussed in the SIS EIS for a comprehensive consideration of impacts.

Impacts. Environmental effects identified under the preferred alternative are primarily related to construction activities and include impacts to soils, land use, and biological resources. Construction of the RCSTS and associated facilities would disturb approximately 30 hectares (74 acres) of land, none of which are considered to be prime or unique farmland. Fugitive dust emissions are anticipated during earth moving activities, but would be mitigated by dust suppression measures.

Of the 30 hectares (74 acres) of land that would be disturbed while constructing the RCSTS, approximately 9 hectares (23 acres) would be mature sagebrush/cheatgrass habitat, a State designated Priority Habitat and important habitat for the loggerhead shrike, a Federal and State candidate species; the sagebrush lizard, a Federal candidate species; and the sage sparrow, a State candidate species. The 9 hectares (23 acres) represents 0.01 percent of the total sagebrush habitat at Hanford. The preferred alternative would include establishing habitat restoration sites to mitigate the disturbance of native soil and removal of vegetation in the construction area.

## **Truck Transfer Alternative**

This alternative includes truck transfer of all wastes listed under the preferred alternative, with the exception of solids from Tank 102-SY which would not be retrieved under this alternative. Mitigation of the Tank 101-SY safety issue by continued operation of the mixer pump would also occur under the truck transfer alternative. The alternative would transfer SWL from interim stabilization of 200 West Area SSTs and 200 West Area facility wastes to DSTs in the 200 East Area by truck, without using Tank 102-SY as a staging tank for complexed wastes. The SIS EIS evaluated the 3,800 liters (1,000 gallons) LR-56(H) truck and a hypothetical 19,000 liter (5,000 gallon) tanker truck. The alternative would utilize existing roadways and include construction and operation of a new load facility in 200 West Area and an unload facility in 200 East Area, including underground transfer piping to and from the facilities, and some additional roadway segments.

Impacts. Environmental effects from implementing the truck transfer alternative include impacts to soils, transportation, and worker health, due to the construction of load and unload facilities and roadway segments, and operation of the truck transfer system.

Construction of the load and unload facilities and roadways would disturb approximately 2 hectares (5 acres) of land, none of which is considered to be prime or unique farmland, or mature sagebrush habitat. During construction activities, dust suppression measures would be implemented to reduce fugitive dust emissions.

The truck transfer alternative would use existing Hanford Site roadways and new onsite road extensions to transport approximately 1.9 million liters (5 million gallons) of radioactive waste. Using the LR-56 truck [3,800 liters (1,000 gallons) capacity], approximately 4,691 truck trips would be required over 1,564 working days assuming three trips per day. If the 19,000 liters (5,000 gallons) capacity truck is used, approximately 938 truck trips over 313 working days would be required, assuming three trips per day. Potential traffic circulation impacts could occur from barricaded roads, speed limitations, escorts, and other administrative controls. However, based on a frequency of three truck trips per day, shipping during off-peak hours, and providing advanced notice of truck shipments, no significant adverse traffic circulation impacts are anticipated.

Operators and health physics technicians would be exposed to radiation within acceptable limits during operation of the load and unload facilities. However, estimates for radiation dose to the truck driver yielded an unacceptably high dose. Additional shielding analysis or restrictions on the quantities of radioactive materials would be necessary to ensure that radiation exposures would be as low as reasonably achievable for the drivers.

### **Rail Transfer Alternative**

This alternative includes rail transfer of all wastes listed under the preferred alternative, with the exception of solids from Tank 102-SY which would not be retrieved under this alternative. Mitigation of the Tank 101-SY safety issue by continued operation of the mixer pump would also occur under the rail transfer alternative. The alternative would transfer salt well liquids from interim stabilization of SSTs, and 200 West Area facility wastes by a



hypothetical 38,000 liter (10,000 gallon) rail car. The alternative includes use of existing Hanford Site rail lines, construction and operation of some additional onsite rail line segments, as well as construction and operation of a new load facility in 200 West Area and a new unload facility in 200 East Area.

Impacts. Environmental effects associated with the rail transfer alternative include impacts to soils and transportation. Construction of the load and unload facilities and rail spurs would disturb approximately 2 hectares (5 acres) of land, none of which is considered to be prime or unique farmland, or mature sagebrush habitat. During construction activities, dust suppression measures would be implemented to reduce fugitive dust emissions.

Approximately 470 train trips, assuming one tank car per trip, would be required to transfer the subject waste. Assuming 2 train trips per day, 235 days would be required to transfer the wastes. The two additional daily trips would not impact existing rail operations. Significant impacts to road traffic from road closures during rail transport are not expected because of advance notice of shipments, restricting shipments to off-peak hours, and the short duration of road closures.

### **New Storage Alternative**

This alternative includes mitigation of the Tank 101-SY flammable gas safety issue by dilution and retrieval of the waste. Facilities constructed and operated to accomplish this action would include a new tank facility (NTF), including two new DSTs and associated facilities, a waste retrieval system in Tank 101-SY, a waste retrieval system in Tank 102-SY,

and the RCSTS. This alternative also includes transfer of waste from Tank 102-SY, SWL from interim stabilization of SSTs in the 200 West Area, and transfer of 200 West Area facility wastes as described for the preferred alternative. This alternative would provide additional storage capacity that could be used for other future waste management needs.

Impacts. Environmental effects identified under the new storage alternative are primarily related to construction activities and include impacts to soils, land use, biological resources, and worker exposure. Construction of the RCSTS and NTF would disturb approximately 30 hectares (74 acres) and 20 hectares (50 acres) of land, respectively, none of which are considered to be prime or unique farmland. Fugitive dust emissions are anticipated during earth moving activities, but would be mitigated by dust suppression measures. The 50 hectares (124 acres) of land would be a small incremental addition of land committed to waste management at Hanford.

Approximately 30 hectares (74 acres) of mature sagebrush/cheatgrass habitat would be disturbed from constructing the RCSTS and NTF. The new storage alternative would include establishing habitat restoration sites to mitigate the disturbance of native soil and removal of vegetation in the construction area.

No health effects are anticipated for routine operation of any facilities under the new storage alternative.

## **No Action Alternative**

This alternative would not construct any new tanks, tank retrieval systems, or cross-site transfer systems. The flammable gas safety issue in Tank 101-SY would be managed through continued operation of the existing mixer pump. The remaining supernatant in Tank 102-SY, SWLs from interim stabilization of SSTs, and liquid waste from 200 West Area facilities would be transported from the 200 West Area to the 200 East Area via the ECSTS.

Impacts. There are no environmental impacts associated with normal operations of the no action alternative. However, due to lack of secondary containment and poor leak detection capabilities of the aging ECSTS, leaks to the environment are considered more likely than under the other alternatives evaluated in the SIS EIS. To avoid environmental impacts from a failure of the ECSTS during waste transfer, operational controls prior to waste transfers such as, pressure testing at levels in excess of operational pressures, would be used to confirm the integrity of the ECSTS before waste is introduced into the system.

**Environmentally Preferred Alternative:** Normal operations under the no action alternative would not result in the loss of State-designated Priority Habitat, would not result in the generation of additional contaminated materials requiring decommissioning and disposal, and would not cause additional worker exposures over existing levels, as would occur under the preferred, truck transfer, rail transfer, and new storage alternatives. Therefore, the no action alternative is considered the environmentally preferred alternative under normal operating conditions.

However, because the existing cross-site transfer system is over 40 years old, there is a higher probability of system failure or an accident than under the other transfer alternatives evaluated in the Final SIS EIS. Additionally, because the existing transfer system is not compliant with current engineering standards requiring double containment and leak detection systems, there is a higher likelihood of a release to the environment under accident conditions than would be anticipated under the other transfer alternatives.

**Other Considerations:** In addition to the assessment of environmental impacts provided by the SIS EIS, DOE and Ecology considered costs, comments on the Final SIS EIS, and nuclear criticality safety in determining a course of action to meet the need for interim management of Hanford tank wastes.

## **Costs**

Comparative analysis of construction, operation, and decommissioning costs among the alternatives was generated for an interim period of five years and lifecycle operations till 2028. The analysis was based on a comparable set of baseline assumptions regarding waste volumes and transfer schedules, and accurately reflects relative costs among alternatives. However, the estimates may not accurately represent the true cost of implementing a specific alternative once final decisions are reached on waste transfers. Based on the unresolved criticality safety issues described below, retrieval costs for solids removal from Tank 102-SY have been excluded from the preferred and new storage alternatives. The results of the analysis are as follows:

ALTERNATIVE	INTERIM COSTS (1995 dollars in millions)	LIFECYCLE COSTS <sup>b</sup> (1995 dollars in millions)
Preferred	\$105.2 <sup>a</sup>	\$243
Truck Transfer	\$125.9	\$632.8
Rail Transfer	\$113.7	\$491.8
New Storage	\$328.1 <sup>a</sup>	\$589.6
No Action	\$48.9	NA

<sup>a</sup> Excludes costs for retrieval of solids from Tank 102-SY as proposed in the SIS EIS.

<sup>b</sup> Includes costs for retrieval of solids from Tank 102-SY under all alternatives.

The lifecycle costs for the no action alternative were not estimated because the ECSTS could not meet waste transfer requirements beyond the interim time period. All alternatives include a \$36 million decontamination and decommissioning cost for the ECSTS.

### Comments Received

DOE and Ecology received comments from two individuals on the Final SIS EIS.

Comment. One individual agreed with continued operation of the mixer pump in Tank 101-SY to mitigate flammable gas accumulation.

Response. DOE will continue the operation of the mixer pump in Tank 101-SY.

Comment. "The fundamental assumption is that the best way to maintain "Safe" storage is to suck liquid waste out of single shell tanks and then move it to a safer double shell tank.

Why is that safer? A lot of things can go wrong when you pressurize the waste and move it that can't happen if you leave it in the single shell tanks. Look at the spray leaks from your

"ITRS" and "PPSS" that can kill hundreds of people. Compare that to the lack of impacts to people if you leave the waste in the single shell tanks as laid out in the Hanford EIS that produced the empty grout vaults and the unbuilt vitrification plant. [Assumed DOE/EIS-0113] Those facilities weren't needed either and the Department rushed to the wrong decision spending millions of dollars unnecessarily."

Response. In the Record of Decision based on the *Final Environmental Impact Statement for the Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes* (HDW-EIS) (53 FR 12449), and again in the Finding of No Significant Impact for an environmental assessment for the Waste Tank Safety Program (DOE/EA-0915), DOE decided to continue to safely store the SST waste prior to making a decision on the disposal of this waste. The decision on the final disposition of the SST waste will be made by the Department in the TWRS EIS. The SST interim stabilization program is an ongoing program initiated in late 1970s to reduce the potential for release of high-level wastes into the environment and allow continued safe storage of the high-level sludge, salt cake, and non-pumpable liquid waste. Although no adverse radiological impacts were postulated by the HDW-EIS for leaking SSTs, including the ultraconservative 40,000 m<sup>3</sup> (10.5 million gallons) release scenario evaluated, DOE policy is to reduce the potential for any liquid release whenever practicable [DOE/EIS-0113]. Further, all retrievals and waste transfers will occur at subcritical levels in accordance with existing procedures. There are currently 67 SSTs which have been declared confirmed or assumed leakers. These SSTs have released 2.3 to 3.4 million liters (600,000 to 900,000 gallons) of waste to the environment. Therefore, it is DOE's policy that the continued safe storage of the SST waste pending a final disposal decision requires the continuation of the SST interim stabilization program, which is scheduled to be completed by the year 2000.

The postulated spray releases from Initial Tank Retrieval System (ITRS) and Past Practice Sluicing System (PPSS) evaluated in the Final SIS EIS have a probability of extremely unlikely to incredible or  $10^{-5}$  to  $10^{-7}$  per year. When compared to the almost certain release to the environment if liquid wastes are left in SSTs, DOE has determined that the risks of transfer are acceptable and that the risks to the environment from suspension of the interim stabilization program are unacceptable.

Comment. "What are the true impacts of leaving the waste in the single shell tanks? Are they any greater now than they were in the old EIS?"

Response. The SIS EIS is an interim action EIS which considers only near term actions required to safely manage tank wastes until disposal decisions are made through the TWRS ROD. Leaving waste in the SSTs is beyond the scope of the SIS EIS. The TWRS EIS is currently re-evaluating the consequences which would result from leaving wastes in single shell tanks.

Comment. "How much money will you waste this time on an action that isn't needed?"

Response. The costs of the alternative actions are specified above. DOE believes that the action is needed and the costs are justified.

Comment. "Your purpose and need statement basically says you need it because the State told you to do it in the TPA. So you already made the decision in a fundamentally flawed way without regard to NEPA. Once again the NEPA process at DOE is a sham ... The bottom line is that the DOE NEPA process is a sham, and now the State is a part of it. You make decisions and then try to justify them with EISs."

Response. This EIS was prepared to comply with the requirements of NEPA. An EIS document identifies and evaluates the environmental impacts of the proposed action and reasonable alternatives. The Tri Party Agreement defines the schedules and milestones for taking certain cleanup actions at the Hanford Site. The Tri Party Agreement is annually revisited and can be changed if new information arises or situations change. For example, the Tri Party Agreement had milestones for the six new double shell tanks which were identified in Draft SIS EIS. Public comments received on the Draft SIS EIS as part of the NEPA process and new studies indicated that six new double shell tanks were not needed. As a result, an adjustment to DOE's preferred alternative was made in the Final SIS EIS and the Tri Party Agreement was modified to delete the milestones for construction of new double shell tanks.

Comment. "Even if you absolutely had to move some waste you already have an existing pipeline system that can move liquids. This year you moved over 400,000 gallons of waste through it. Why can't you use it for more transfers? In fact your EIS says you plan to do just that. For this EIS most of the waste is planned to go through the existing pipelines. Why can't you send a few more transfers through the existing lines? This would undoubtedly be cheaper and less damaging to the environment. Before the last transfer the line was pressured tested to make sure it would be safe. Why not just do that every time? You could take very little risk by doing this and you'd save the people of this country tens of millions of dollars."

Response. The existing lines are planned to be used for liquid waste transfers as indicated in the comment. However, due to the age of the lines and likelihood of failure of these lines, DOE believes it is prudent to replace these lines with a modern, safe, reliable and compliant



waste transfer system. This will provide DOE with a more certain ability to meet its need for cross-site waste transfers.

Comment. "A new line isn't needed just to move the amount of liquid waste specified in this EIS. The State is making DOE build this line to service the TWRS planned mission of vitrifying all the waste in the tanks. If that's the true need, then this action needs to be covered in the TWRS EIS where there might be a real need. Building it for this trumped up need will prejudice the TWRS decision (which already seems to have been made.)"

Response. DOE has a need to move waste cross-site prior to implementing decisions based on the TWRS EIS. This need exists independent of the decisions that may be reached based on the TWRS EIS. The replacement cross site transfer system could become a component of the TWRS, but DOE does not believe that its existence would be prejudicial to any of the alternatives being considered within the TWRS EIS.

Comment. "How in the world can you be privatizing TWRS if you haven't already made the decision?"

Response. Privatization of TWRS is not an action that was considered in this EIS.

### **Tank Farm Criticality Control**

Through an ongoing safety evaluation process, DOE recently revisited its operational assumptions regarding the potential for the occurrence of a nuclear criticality event during waste storage and transfers. Changes to the Tank Farm Authorization Basis for Criticality that were approved in September 1995, were rescinded by DOE in October 1995, pending

the outcome of a criticality safety evaluation process outlined for the Defense Nuclear Facilities Safety Board (DNFSB) on November 8, 1995. Until these criticality safety evaluations are completed, Hanford will operate under the historic limits which maintain reasonable assurance of subcritical conditions during tank farm storage and transfer operations. Of the actions evaluated in the Final SIS EIS, only the retrieval of solids from Tank 102-SY is affected by the technical uncertainties regarding criticality. Based on the quantities of plutonium in Tank 102-SY sludge, retrieval of the solids falls within the scope of the criticality safety issues which will be evaluated over the next few months. As a result, a decision on retrieval of solids from Tank 102-SY is being deferred in this ROD. Tank 101-SY mixer pump operations, interim operation of the ECSTS, operation of the RCSTS, SWL retrievals, and 200 West Area Facility waste generation, would all occur within the applicable criticality limits and would be subcritical.

**Decision:** Based on the consideration of environmental impacts, cost, engineering standards, criticality safety, and comments received on the Final SIS EIS, DOE will construct and operate the RCSTS on the proposed route identified in the Final SIS EIS, continue operating the mixer pump in Tank 101-SY, and transfer waste from the interim stabilization program and other facility waste in the 200 West Area. During construction of the RCSTS, SWLs and 200 West Area facility wastes will be transferred through the ECSTS to DST storage in the 200 East Area. These actions will provide safe, compliant, and reliable high-level waste transfer capabilities and will operate with wastes at subcritical levels under the existing Hanford Tank Farm Interim Safety Basis, until final disposal decisions are made under the TWRS EIS.

The RCSTS will provide Hanford with a waste transfer capability that meets current engineering standards for double containment and leak detection. As compared to other transfer alternatives, the RCSTS will:

- More effectively minimize worker exposures and meet ALARA requirements through remote operations and underground transfers;
- Cost less during both the interim time period and less over a lifecycle operation than the other action alternatives;
- Provide greater operational flexibility by conducting transfers that are independent of weather or site traffic;
- More efficiently manage the transfer of millions of gallons of wastes required in the near term and potentially required in the future.

The RCSTS will be built on the proposed route identified in the Final SIS EIS. Alternative routes evaluated in the EIS would have environmental impacts identical to the proposed route except with respect to impacts on Priority Habitat. The western segment optional route would reduce habitat impacts by only 0.6 hectares (1.6 acres) but at a significant cost increase. The eastern option would result in an increase in habitat loss by 2.1 hectares (5.3 acres) over the proposed route. Because habitat impacts will be mitigated, engineering siting criteria are more favorable, and construction costs would be less, the proposed RCSTS route is selected.

The continued operation of a mixer pump in Tank 101-SY is selected to mitigate the flammable gas safety issue in that tank. The mixer pump has been proven to be effective mitigation during more than one year of operations. A replacement pump is available and will be maintained as a contingency should the existing pump fail. Dilution as a mitigation was not selected due to the success of the mixer pump, and because it would increase waste volumes requiring new tanks for storage and generate more waste for future disposal.

DOE will continue to use the ECSTS until the RCSTS is operational to provide access to 200 East Area DSTs for storage of 200 West Area facility wastes and retrieved SWLs. SWL retrievals will continue to reduce the risk to the environment from leaking SSTs. Operational procedures will assure the integrity of the ECSTS prior to any waste transfers. The current planning base estimates that the ECSTS will operate for approximately 625 hours during five transfers before the RCSTS is operational.

Based on the new information available to DOE, since the issuance of the Final SIS EIS, regarding nuclear criticality safety concerns during retrieval, transfer, and storage actions, DOE has decided to defer a decision on the construction and operation of a retrieval system in Tank 102-SY. Pending the outcome of the technical initiative to resolve the tank waste criticality safety issue, transfers of wastes through Tank 102-SY will be limited to non-complexed wastes.

### **Mitigation**

All practical means to avoid or mitigate environmental impacts from the actions to be implemented by this ROD have been adopted by DOE. With the exception of habitat losses and dust generation from construction activities, and the potential to encounter cultural resources during subsurface disturbance, all potentially significant impacts have been avoided.

Construction of the RCSTS will result in impacts that can be either avoided or minimized through the implementation of mitigation measures. The surface and subsurface disturbance

required for the installation of the RCSTS, a 10 kilometer (6.2 mile) double-wall pipeline, has the potential to affect biota, dust emissions, and cultural resources. Biota will be displaced due to the loss of habitat. Particulate emissions in the form of dust releases from exposed soils will occur if not mitigated. Cultural resources may be encountered during subsurface excavations necessitating mitigation actions.

Impacts to biota resulting from the loss of habitat will be mitigated through a program of transplantation of mature sagebrush from the RCSTS construction corridor to a mitigation site located in close proximity to the impacted area. In addition, tublings will be cultivated and transferred to the mitigation site. For the 9 hectares (23 acres) of mature sagebrush lost to the RCSTS construction, 27 hectares (69 acres) of sagebrush habitat will be planted.

Dust emissions will be mitigated by a combination of watering and reseeding of disturbed areas. In areas of active construction, water will be applied at frequencies sufficient to prevent unacceptable releases of dust. After RCSTS construction is completed, those areas not required for routine access or maintenance will be reseeded with native grass species.

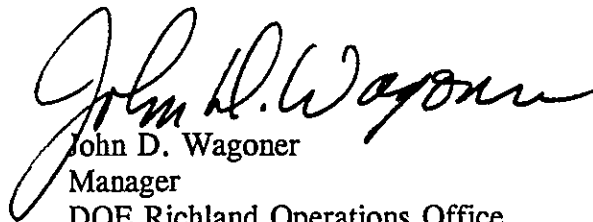
No archaeological or historical sites were identified in the corridor to be disturbed by RCSTS construction. However, one potential archaeological site was identified within the compensation area to be utilized for habitat mitigation. Impacts to this site will be mitigated through avoidance. All ground-disturbing actions that occur during RCSTS construction or habitat mitigation activities will be monitored. A qualified archaeologist identified by DOE will assess the significance of any resources uncovered. The archaeologist will coordinate with DOE to initiate consultation with the State Historic Preservation Officer (SHPO) and the

appropriate tribal representatives, including members of the Wanapum People, Yakama Indian Nation, Confederated Tribes of the Umatilla Indian Reservation, and Nez Perce Tribe. To the extent possible, all materials determined significant will be avoided during subsequent activities and will be left in place. If this is not possible, removal will be conducted in consultation with DOE, the SHPO, and appropriate tribal representatives.

In accordance with Section 1021.331(a) of the DOE regulations implementing NEPA (10 CFR 1021), a Mitigation Action Plan (MAP) will be prepared that addresses mitigation actions associated with the course of action directed by this ROD.

#### **Issued**

The State of Washington concurred on this Record of Decision via letter to the Department of Energy on November 21, 1995. This Record of Decision for the Safe Interim Storage of Hanford Tank Wastes is issued by the Department of Energy, Richland Operations Office, Richland, Washington on November 21, 1995.

  
John D. Wagoner  
Manager  
DOE Richland Operations Office